Pregnancy

Grades 7 and 8, Lessons #8 and #9

Time Needed

Two class periods

Student Learning Objectives

To be able to…

1. Distinguish (with 75% accuracy) 15 myths and facts re: how conception can or cannot happen.
2. Pronounce, spell, and explain the meanings (with 75% accuracy) of the 31 terms in the glossary of *Pregnancy Reference Sheet 4*.

Agenda

1. Explain the relevance of the lesson and identify it as primarily review.
2. Using *Pregnancy Transparencies* or drawing on the blackboard, describe the components of a cell, the processes of conception, gender determination and multiple births.
3. Hand out *Pregnancy Reference Sheets 1-4* and have students read 1-3 aloud.
4. Answer student's verbal and anonymous questions and discuss the causes of miscarriage and prematurity.
5. Play the Pregnancy Game.
6. Assign homework.

This lesson was most recently edited on July 29, 2013.
Alternative formats available upon request.

Materials Needed

Classroom Materials, equipment:

- *Pregnancy Transparencies 1-5* *
- 32 *Pregnancy Game Cards* (one class set … that is: one single-sided copy of each of eight pages, cut into four parts, so there's one question on each "card.")
- Overhead projector
- Shoe box or coffee can
- 500 paperclips

Student Materials (for each student):

- *Pregnancy Reference Sheets 1-4*
- *Family Homework Exercise: Pregnancy*
- *A Young Person's Birth Information Sheet*
- *Family Homework Letter* (Appendix B)

* Unless you prefer to draw freehand, introducing one part at a time

Activities, Day One

1. **Explain the lesson's relevance:**
   It's not enough to know the parts of the reproductive system. It's also important to understand how the system works, how pregnancy happens.

   Identify the lesson as primarily review. (Seventh and eighth graders frequently believe they already are quite knowledgeable regarding pregnancy, and some actually are. You do not want them to feel you are talking down to them.)

2. **Using *Pregnancy Transparencies 1-5*, or drawing on the blackboard, describe briefly:**

   - The components of a cell
   - The process of conception
   - The process of gender determination
   - How multiple births occur

   } Ask volunteers to try to explain these. Some may know.

   NOTE: The egg and sperm on *Transparencies 2 and 3* have been greatly magnified, whereas the uterus is of normal size. The embryo in *Transparency 5* has also been magnified. It has developed a month and would really be 1/10 to 1/4 of an inch long.

3. **Then hand out *Pregnancy Reference Sheets 1-4* and ask for volunteers to read 1-3 aloud.**

4. **Answer students' verbal and anonymous questions, unless you are saving the anonymous questions for a homework assignment.** See Homework, below.

   Students will, ordinarily, bring up pregnancy problems (miscarriage, birth defects, prematurity, low birth weight). **If they don't, you raise these issues:**

   - Miscarriages and birth defects may be caused by:
     - a chromosomal abnormality in the ovum or sperm
     - mother's consumption of drugs (including alcohol and tobacco)
     - father's consumption of drugs (including alcohol and tobacco)
     - mother's illness, including some STD's
     - radiation and environmental pollution
     - mother's age (the healthiest, safest time is in her 20's and early 30's)
     - father's age
     - birth trauma
     - baby's illness
     - unknown factors

   - Some possible reasons for the especially high rate of birth defects, miscarriages, premature birth, and low birth weight in babies born to TEENS are:
     - no prenatal care or late prenatal care
     - poor nutrition
     - consumption of alcohol, cigarettes and other drugs
     - high rates of sexually transmitted diseases (STDs) among teens

Activities, Day Two

5. Play the Pregnancy Game.
It's played exactly like the Reproductive System Game (see Lesson 7), except with Pregnancy Game Cards.

Homework

Students' options …

- ***Family Homework Exercise: Pregnancy***
  The student will also need to take home ***A Young Person's Birth Information*** Sheet. And, as always, students will also need to take home the ***Family Homework Letter*** (Appendix B).

- Call one of the phone numbers or use one of the web sites on *Pregnancy Reference Sheet 4* in the resource section, to get an answer to one or more of the **anonymous questions** asked by your classmates.

Advice to teachers, if you use this (latter) assignment…

a. Transcribe the questions on a typewriter or in your own handwriting to protect the anonymity of the askers.
b. Assign specific questions to whichever students volunteer.
c. Do not assign this to every student, or they will get a frustrating number of busy signals.
d. Allow at least four days for students to complete the assignment because these information sources may have restricted hours.
e. Students can report their findings orally to you, to the class (if you can afford the time), or in writing. This is a good way to get students to rehearse the important skills of information seeking and written and/or oral communication. If students report only to you, make sure you convey the answers to the class.

Q: From conception to about eight weeks, the developing baby is called what? A: An embryo Explanation: First there are a separate sperm and egg. Then they join to become a fertilized egg, which becomes a tiny ball of cells. It is called an embryo once it has nested in the uterus.	Q: After about eight weeks of development, the developing baby is called what? A: A fetus Explanation: After *another* 30-34 weeks, or a total of 38-42 weeks, the fetus will be ready to be born. It will be a fully developed baby.
PREGNANCY GAME CARDS	
Q: What do you call the meeting of a sperm and an ovum? A: Fertilization Explanation: This fertilization is the joining of the mother's and father's chromosomes. It happens near the top of the fallopian tube.	Q: What do you call it when the ball of cells nests in the uterus? A: Implantation Explanation: The ball of cells actually burrows into the wall of the uterus. It is implanting itself.

Q: The organ that brings oxygen and nourishment to the fetus, and removes waste products is the _____.

A: Placenta or umbilical cord

Explanation: Either of these answers is OK. The placenta attaches to the wall of the uterus and connects to the mother's bloodstream. It also makes hormones and is actually a separate organ. The umbilical cord is just a tube made of blood vessels, connecting the fetus to the placenta.

Q: The plans for a new human being are contained in DNA molecules called _____.

A: Chromosomes

Explanation: DNA is the chemical of life. It forms into tiny particles called genes. Strings of genes are called chromosomes. A gene controls a chemical reaction. The total of these chemical reactions determines much of how our bodies and minds are built and how they work.

PREGNANCY GAME CARDS

Q: The core of a cell is called the _____.

A: Nucleus

Explanation: On the outside of a cell is a very thin cell membrane, like a soap bubble. Inside it is a jello-like substance (with many parts floating in it) called cytoplasm. Then there's another membrane. And finally there is a core or nucleus.

Q: When the uterus squeezes during the baby's birth, it is called a _____.

A: Contraction

Explanation: These contractions continue for several hours, or even a day or more. That period of time is described as "labor." Finally the baby is pushed out through the vagina.

Q: What would make a girl or woman think she might be pregnant?

A: If she had vaginal intercourse and then missed her period, got breast tenderness, felt sick to her stomach a lot, felt unusually tired or upset, had to go to the bathroom more often than usual.

Explanation: Any of these answers is correct. These are all common signs of pregnancy. She could also be pregnant *without* having any of these early symptoms. Only a pregnancy test or a doctor can tell her for sure.

Q: How many chromosomes are in a human body cell (like a white blood cell, a brain cell, or a muscle cell)?

A: 46

Explanation: Your body is made of about 100 trillion cells. Usually, each one contains the exact same 46 chromosomes. And, unless you are an identical twin, no one in the world has the exact same 46 chromosomes as you.

PREGNANCY GAME CARDS

Q: How many chromosomes are in an ovum or a sperm cell?

A: 23

Explanation: These 23 chromosomes are half of the plans for a new human being ... Its eye color, hair color, the shape of its ears, when it will go through puberty, how it will digest food, and even some of its personality.

Q: Is it the ovum or the sperm that determines what sex the baby will be?

A: The sperm

Explanation: Every ovum has an X chromosome. But a sperm may have an X or a Y chromosome. If an X-sperm fertilizes the egg, the baby will be a girl. A Y-sperm will make it a boy. This means girls usually have two X's (one from their mother's egg and one from their father's X-sperm) and boys have one of each kind of chromosome (an X from the mother and a Y from the father).

Q: If a hundred couples had sex for one year, without any birth control, how many would start pregnancies -- about 30, about 60, or about 90? A: About 90 Explanation: For most people, intercourse eventually leads to pregnancy. Some of those couples got pregnant on the first day of the year; others after a few tries. But 85 or 90 would by the end of the year.	Q: When is the most likely time of the month for a pregnancy to start -- two weeks *before* the girl's or woman's period, or *during* her period, or right *after* her period? A: Two weeks before her period. Explanation: Pregnancy happens whenever people have intercourse around the time of ovulation. Ovulation can happen at any time, but it is usually about two weeks before menstruation.
PREGNANCY GAME CARDS	
Q: How long can sperm live in the woman's body waiting for an egg? A: About five days. Explanation: So intercourse on a Sunday could lead to fertilization on Wednesday or Thursday!	Q: How long can an egg live after it leaves the ovary, waiting for a sperm? A: About one day. Explanation: So if ovulation happened on Sunday, fertilization could happen Sunday or even Monday. After about 24 hours, if it isn't fertilized, the egg dissolves.

Q: How many egg cells need to be released to form identical twins? A: One Explanation: Identical twins look exactly alike because they start from a single egg and a single sperm. They have the same genes. The fertilized egg just splits into two balls of cells before implantation.	Q: True or False? One drop of semen can start a pregnancy. A: True Explanation: That's right. Each drop of semen can contain a million sperm cells. It only takes one to fertilize an ovum.
PREGNANCY GAME CARDS	
Q: True or False? Unless a boy and girl really love each other, they cannot start a pregnancy. A: False Explanation: Some people believe you shouldn't have sex unless you are in love. Others believe you should be married. Most think it is best to wait until you are older. But once people go through puberty, if they have intercourse, a pregnancy could start no matter how they feel about each other.	Q: True or False? A pregnancy will usually not start unless the people really want a baby. A: False Explanation: Some people believe you shouldn't have intercourse unless you want a baby. Others believe if you don't want a baby you should either not have intercourse or else use birth control. But if you have intercourse, you can start a pregnancy, whether you want one or not.

Q: True or False? Most people need to have sex at least four or five times to start a pregnancy. A: False Explanation: It does not matter how many times. Even once is enough, if there happens to be an egg just ovulated or about to ovulate. And most women and girls can't tell when they ovulate.	Q: True or False: Most people need to have sex for at least half an hour to start a pregnancy. A: False Explanation: It does not matter how long intercourse lasts. Even one second is long enough, if semen comes out.
PREGNANCY GAME CARDS	
Q: True or False? A girl or woman can get pregnant by masturbating. A: False Explanation: It never causes pregnancy because there is no sperm to meet the egg.	Q: True or False? Some girls can get pregnant as young as age 9. A: True Explanation: As soon as she starts ovulating, a girl can get pregnant. That might even happen before she has her first menstrual period. Remember, puberty begins at different times in different people. The youngest mother ever reported was five years old.

Q: True or False? Some boys can start pregnancies as young as age 11.

A: True

Explanation: Whenever his testes start to make sperm, a boy can father a child. He may not be a very *good* father when he's so young, but that's in his head and his heart, not his testes. Puberty makes a boy fertile, it does not make him a mature man.

Q: True or False? Pregnancies can start even without intercourse.

A: True

Explanation: If a boy or man ejaculates on the labia, even without actually having intercourse, his sperm can travel inside. If they find an ovum, pregnancy begins.

PREGNANCY GAME CARDS

Q: True or False? A girl can get pregnant at any time of the month.

A: False

Explanation: A girl or woman can only get pregnant if an egg is present. However, most girls and women have no way of knowing when they ovulate. So there is no "safe time" when they can have intercourse and know that they won't get pregnant.

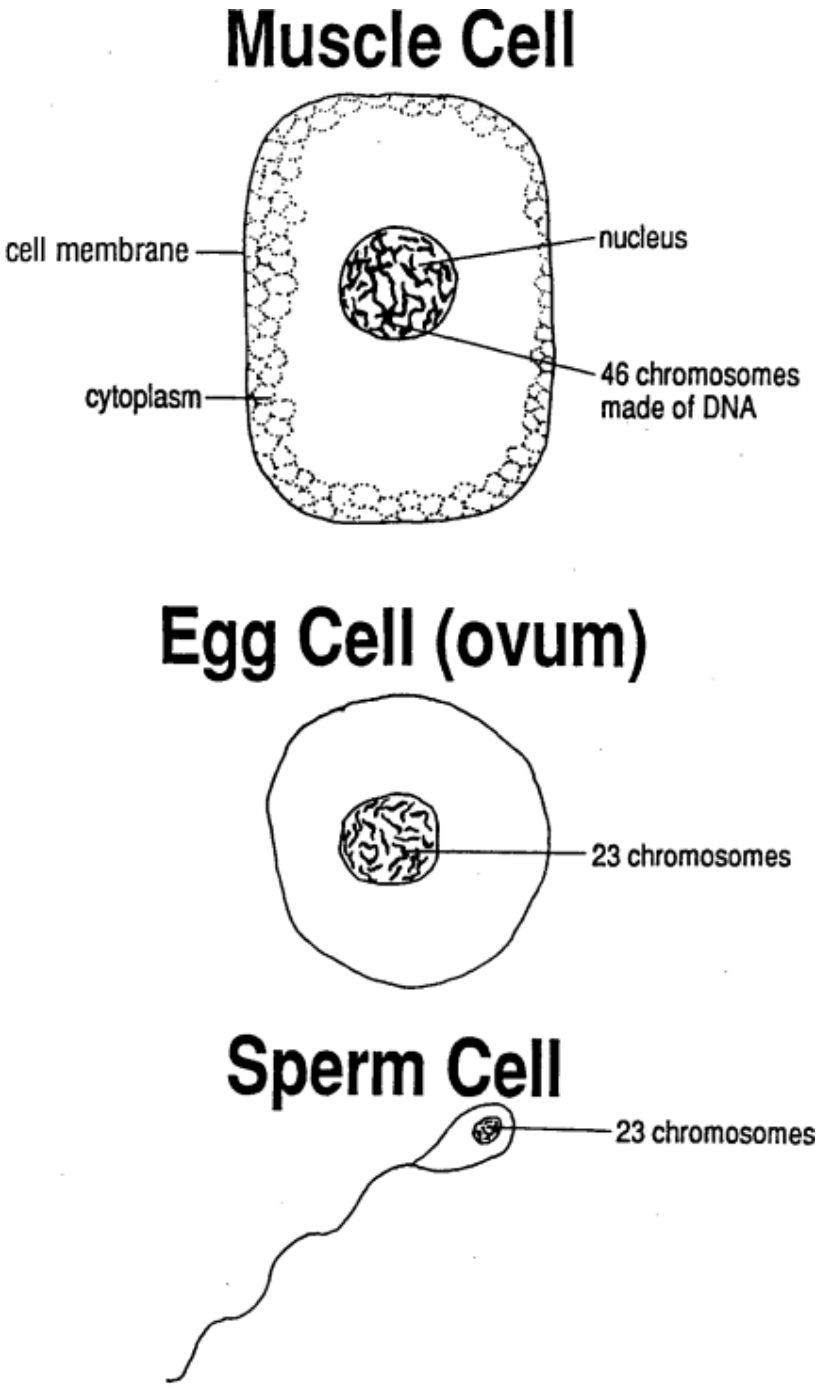
Q: True or False? A girl cannot get pregnant from sexual abuse or rape.

A: False

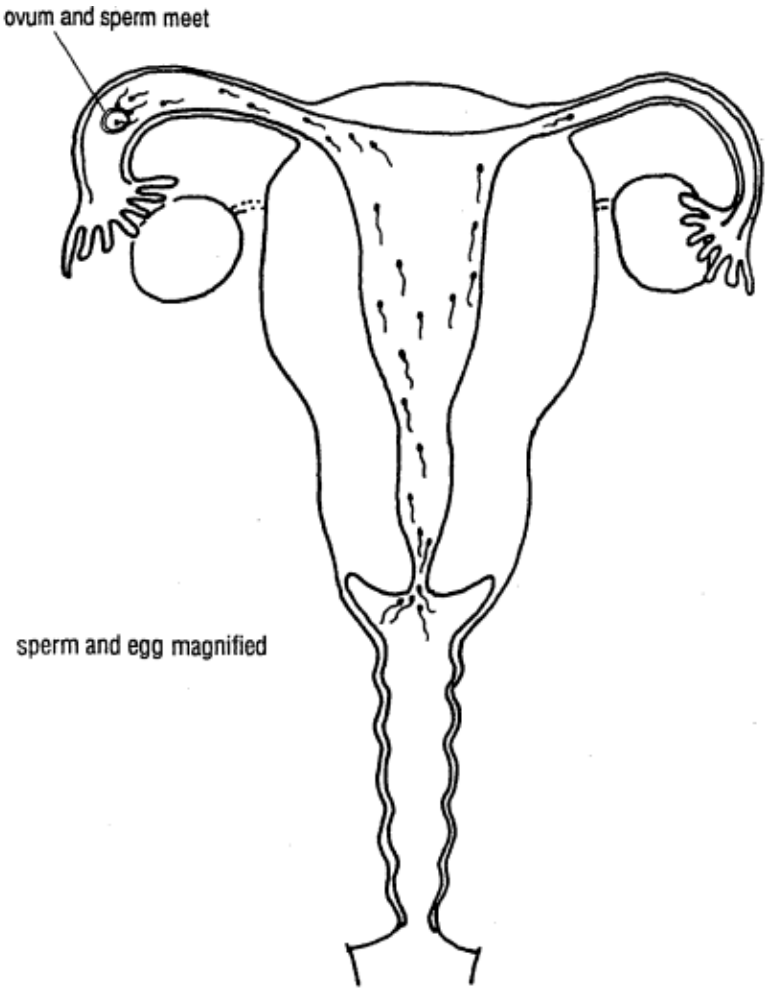
Explanation: *Any* intercourse can lead to pregnancy ... whether or not she was forced or talked into it. She does not have to love the person, or enjoy it, to get pregnant. If a girl has been raped or sexually abused, she can take emergency contraceptive or "EC" pills to try to prevent getting pregnant.

Q: True or False? Pregnancy usually starts during the girl's or woman's menstrual period. A: False Explanation: Some people think they can only get pregnant during their periods. Others think they can only get pregnant when they aren't having a period. The fact is there is no "safe time" of the month when a woman can be sure she won't get pregnant just by looking at the calendar.	Q: True or False? A couple can start a pregnancy the first time they have intercourse. A: True Explanation: Some people think it can't happen the first time. Of course it can. The first time, the ninth time, the twelfth time, the seventy-fourth time, or ANY time.
PREGNANCY GAME CARDS	
Q: True or False? Each time a couple has intercourse, they start a pregnancy. A: False Explanation: Some people think if a couple have three children, they must have had intercourse exactly three times. That's not true. Pregnancy *could* happen any time two people have intercourse, but it doesn't happen every single time.	Q: True or False? If a pregnancy does not happen in the first month of intercourse, one of the people must be infertile. A: False Explanation: It's just a matter of chance. They probably did not have intercourse exactly at ovulation. If a couple has intercourse with no birth control for one or two *years* without getting pregnant, then they should see a doctor.

Pregnancy Transparency 1

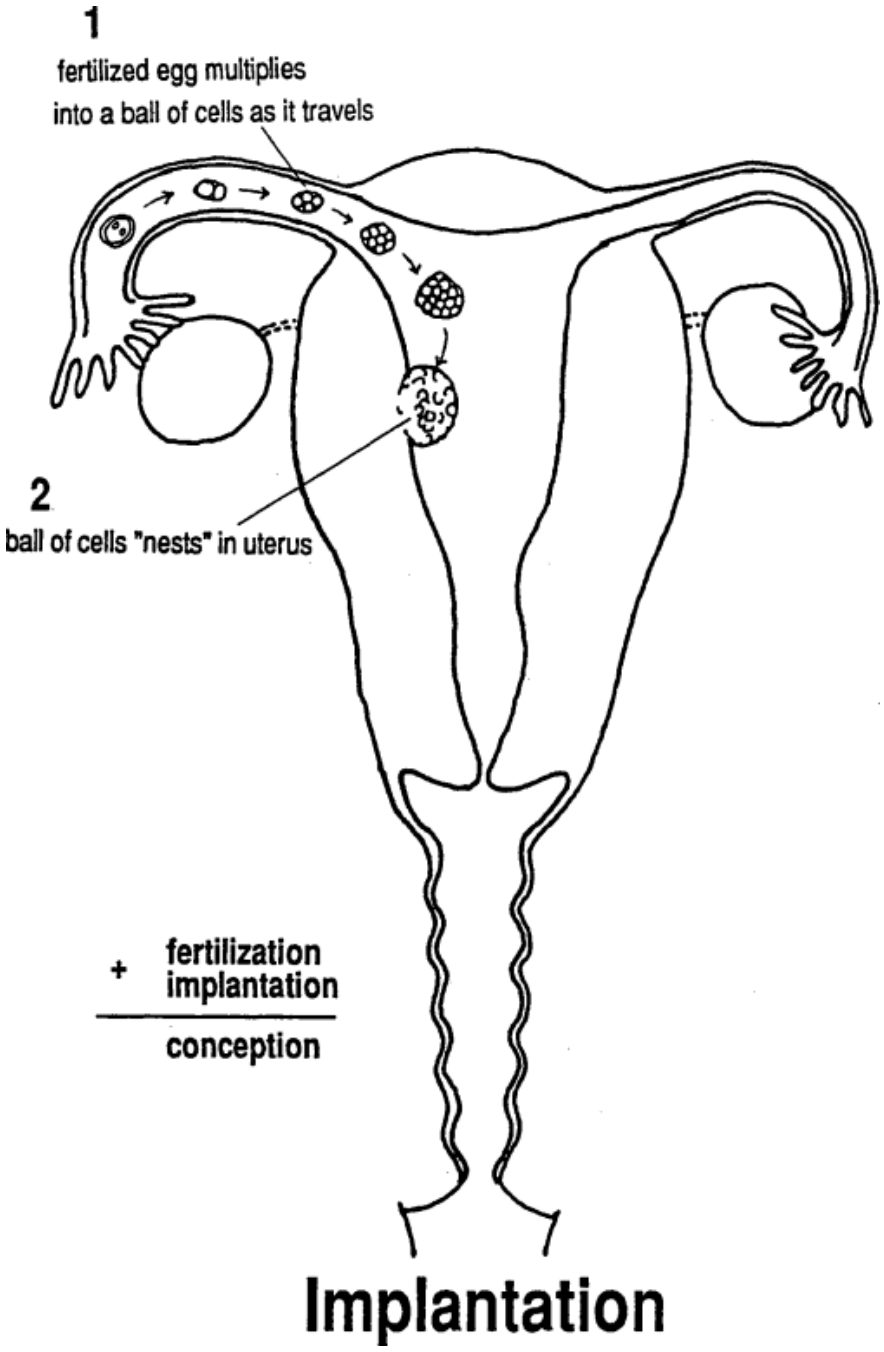


Pregnancy Transparency 2



Fertilization

Pregnancy Transparency 3



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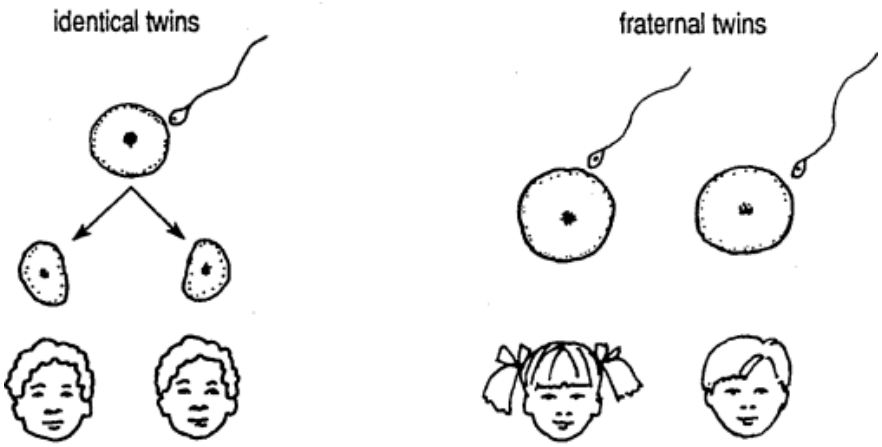
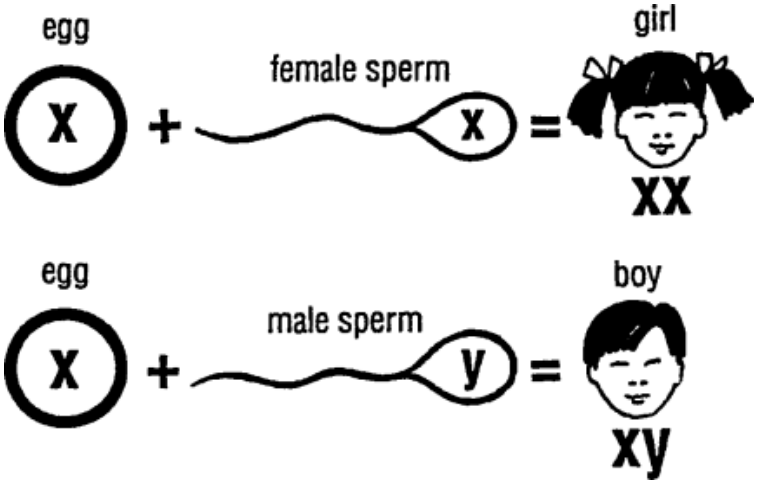
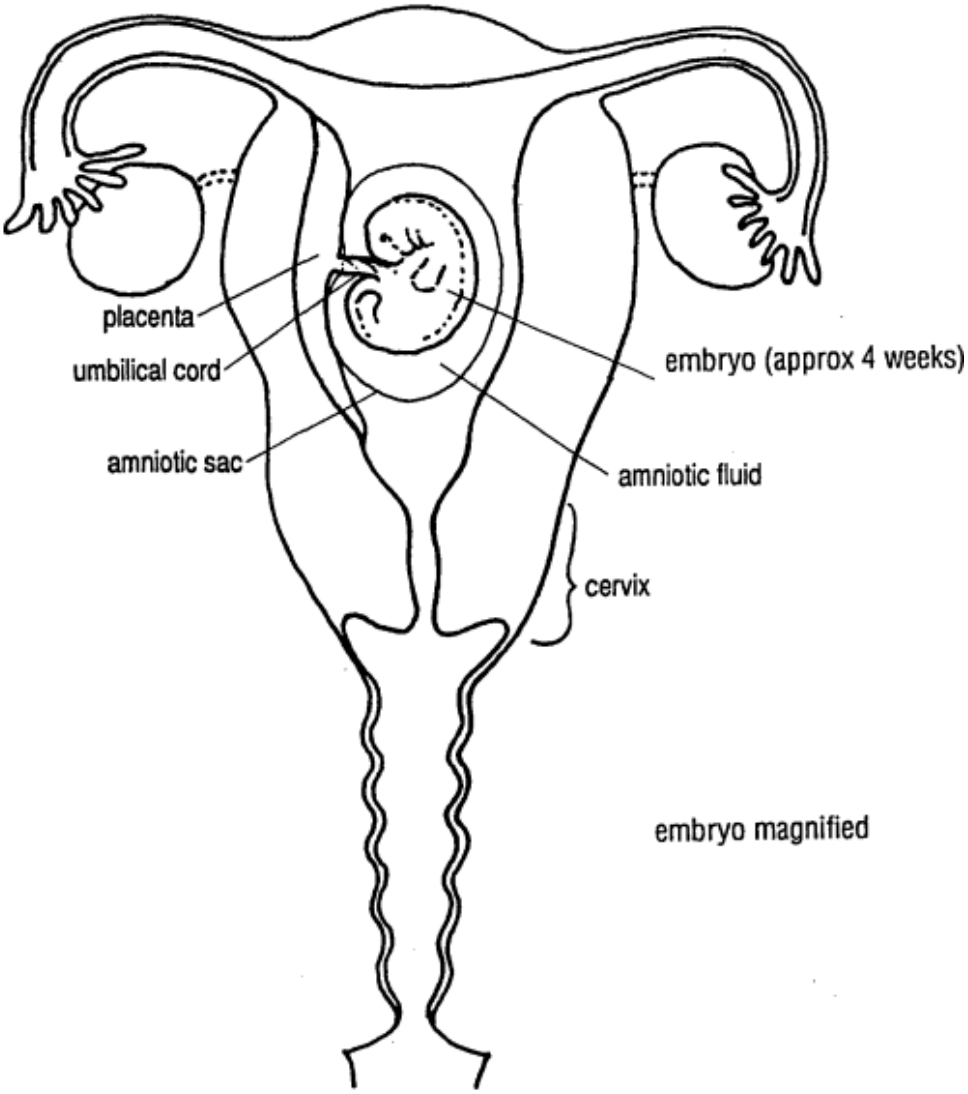




Pregnancy Transparency 5



Pregnancy

Pregnancy Reference Sheet 1

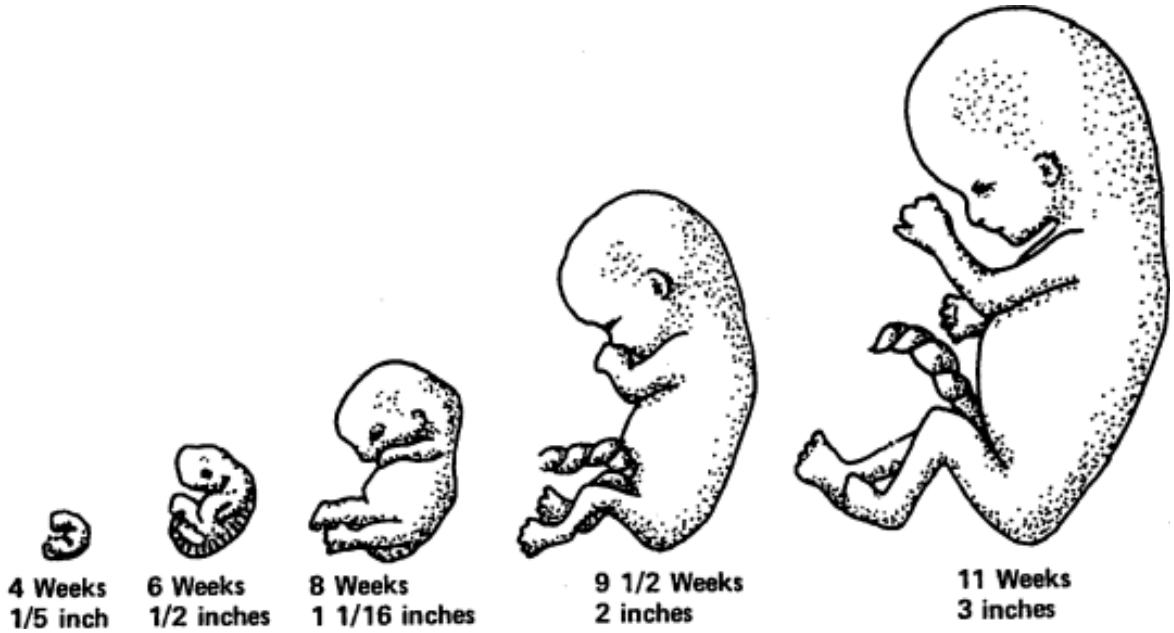
Prenatal Development

First 3 months

During 1st month: Blood begins circulating
Brain is just beginning to form, though it does not work yet

During 2nd month: Arms, legs, and internal organs begin forming
Genitals are starting to form, but male and female still look alike
Tail disappears

During 3rd month: Male and female begin to look different
Fingers, toes, and fingernails form
The head is almost half the size it will be at birth



ACTUAL SIZE

Pregnancy Reference Sheet 2

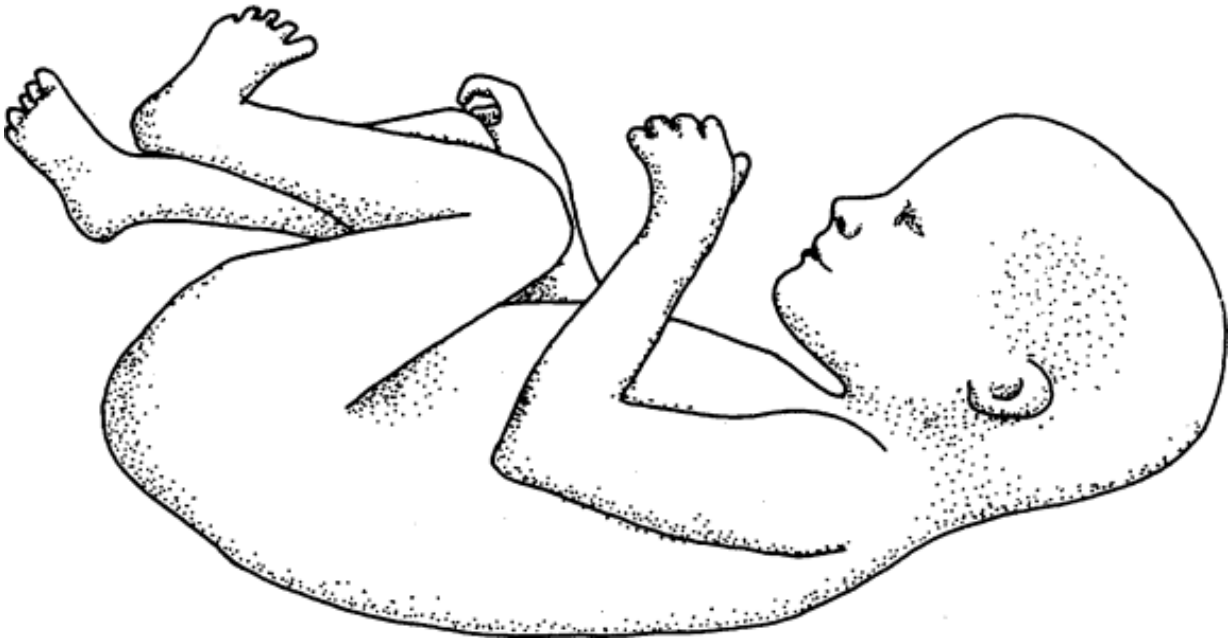
Prenatal Development

Second 3 months

During 4th month: Muscles move
Skin is transparent
Sweat glands, eyebrows, and eyelashes form

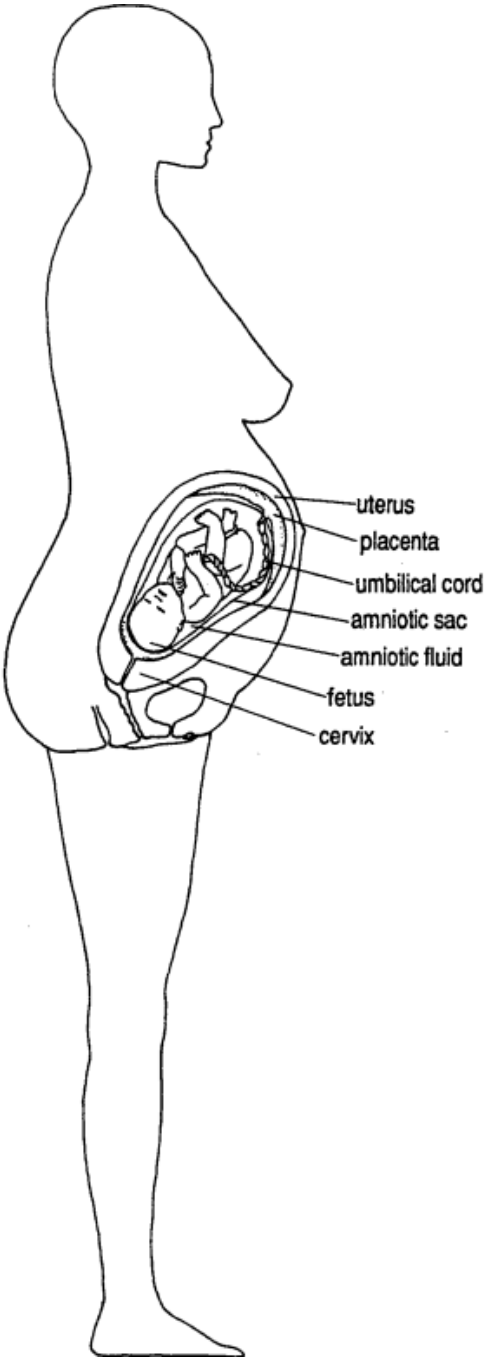
During 5th month: Hair, eyelashes, eyebrows form
Hiccups begin and other movement can be felt
Heartbeat can be heard
There is hair on the head

During 6th month: Brain waves begin (brain starts working)
Eyes open
Ears begin to work
There are fingerprints and footprints



19 Weeks
8 inches

Pregnancy Reference Sheet 3



Prenatal Development

Last 3 months

During 7th month: Adds body fat
Moves a lot
Responds to sound
Sometimes awake, sometimes asleep

During 8th month: Less active, less wrinkled
Still growing longer, heavier
Nails, bones begin to harden

During 9th month: Lungs and other organs finish maturing (The brain won't be fully mature for two more years and then it will mature even more in the preteen and teen years and the reproductive system won't *finish* maturing for years, either.)

Pregnancy Reference Sheet 4: Glossary & Resources

Name_____ **Date**_____

Amniotic Fluid – The "water" in which a developing baby floats. It acts as a cushion.

Amniotic Sac – The thin membrane (like the skin inside the shell of a chicken egg) that surrounds the amniotic fluid and the fetus.

Birth Defects – A disability that a baby is born with (retardation, heart problems, blindness, cerebral palsy, and so on).

Cell – A small part of a living thing. We are made of 100 trillion of them: bone cells, blood cells, skin cells, muscle cells, etc.

Cell Membrane – The thin membrane that surrounds every cell.

Chromosome – A string of genes.

Conception – The beginning of a pregnancy. Conception is fertilization of an ovum by a sperm, followed by implantation in the uterus ... fertilization + implantation = conception.

Contraction – The uterus (which is a muscle) squeezing to push a baby out.

Cytoplasm – The jelly-like material inside a cell's membrane, and all the parts floating in it except the nucleus.

DNA – Deoxyribonucleic acid. The hereditary chemical of which genes and chromosomes are made.

Egg Cell – Same as "ovum" ... the cell from a girl or woman that can start a pregnancy.

Embryo – The developing baby from implantation to about 8 weeks. After that, it is called a "fetus."

Fertile – Able to make a baby (to get pregnant or to help someone else get pregnant).

Fertilization – The joining of a sperm and an ovum.

Fertilized Egg – What an ovum is called after the chromosomes from a sperm have mixed with the ovum's chromosomes.

Fetus – The developing baby from about 8 weeks to birth. Before that, it was called an "embryo."

Fraternal Twins – Twins that grew from two eggs, each fertilized by a different sperm. They don't look any more alike than any brothers and sisters because they have different genes.

Genes – The microscopic messenger codes inside each cell of our bodies. They carry the plans for many things about us: whether we are male or female; what color hair, skin, and eyes we'll have; how tall we'll become, how our bodies will work, etc.

Identical Twins – Twins that grew from one egg, fertilized by one sperm, that split into two balls of cells before it implanted in the uterus. They have the same genes, so they look exactly alike.

Implantation – The ball of cells (that used to be a single fertilized egg) nesting in the wall of the uterus.

Infertile – Unable to make a baby (to get pregnant or to help someone else get pregnant).

Labor – The time (a few hours to a day or more) during which a woman is having contractions and giving birth to a baby. It is called "labor" because it is hard work.

Low Birth Weight – A baby that is "too" small ... less than five and a half pounds at birth. A "low birth weight" baby is more likely to be sick or have birth defects; it is also likely to develop more slowly and to have more difficulty in school. It also may turn out healthy and do just fine.

Miscarriage – A pregnancy ending much too soon, before the embryo or fetus is able to live outside the uterus.

Nucleus – The core of a cell, which contains the chromosomes.

Ovum – Same as "egg cell" ... the cell from a girl or woman that can start a pregnancy when joined with a sperm.

Placenta – An organ that grows inside the uterus during pregnancy to carry food and oxygen from the mother and waste from the embryo or fetus. It produces many hormones that affect both the mother and the baby. It develops from the original ball of cells that implanted in the uterus.

Pregnant – A woman who is going to have a baby.

Premature – Born "too" soon ... after fewer than 38 weeks (9 months) of pregnancy. Depending on how early she or he is born, a premature baby may have serious birth defects or problems and die, minor birth defects or problems and do OK with help from the hospital, or no birth defects or problems and do just fine.

Prenatal – Before birth. Prenatal care means getting special check-ups at least once a month from a doctor starting as early in a pregnancy as possible. Good, early prenatal care can greatly reduce the risk of birth defects, low birth weight, or prematurity. It also helps keep the mother healthy.

Sperm – The cell from a boy or man that can start a pregnancy when joined with an ovum.

Umbilical Cord – The tube leading from the navel of the embryo or fetus to the placenta. It carries food and oxygen to the developing baby, and waste from the developing baby.

RESOURCES

Where can you get up-to-date, accurate answers to questions about pregnancy?

- Call your county **Public Health Department.** In King County (WA), call 206-296-4600 (voice/TDD). For locations of teen clinics in King County go to:
    - www.teenclinic.com
- Call or visit your school or public **library**.
- If you have **Internet** access, try:
    - www.marchofdimes.com
    - www.sexetc.org
    - www.plannedparenthood.org/info-for-teens/
    - And if you live in or near Seattle, see: www.teenclinic.com
- Or ask your school **nurse**, family **doctor** or an OB/GYN doctor (they specialize in women's health, pregnancy and birth), or an adult **family** member.

A Family Homework Exercise: Pregnancy

ALL FAMILY HOMEWORK EXERCISES ARE OPTIONAL.

Adult, read this first:

If you are a mom, the birth mother, this exercise will be straightforward. If you are a father, or a non-biological mother, a grandparent or other close adult, you may not have all the answers. Just be honest.

If you are a foster or adoptive parent, join the student in making up your *own* History Sheet, describing in detail how you came to be a family and what the first day of your being together was like (from agency name to feelings).

Student and adult, read this together:

Most of us are curious about our own births. We may also *need* to know about them, if we ever have related medical problems. Now is a good time to fill out *A Young Person's Birth Information Sheet* together. **Then put it someplace safe, to keep.**

NOTE: Turn in a Family Homework Confirmation Slip by _____if you want credit.

A Young Person's Birth Information Sheet

Your name _____
Date of birth _____ Time of birth _____
Place of birth (include name of hospital, if you were born in a hospital)_____
_____

About the pregnancy:
Did your mother get prenatal care and, if so, what was the midwife or doctor's name?
_____
How did your mother feel during the pregnancy?_____
How old was she when you were born?_____
Did you arrive early, late, or just when you were expected?_____

> **You might also discuss:**
> Did anything interesting or funny happen while your mother was pregnant with you? Was she at a "good age" to have you or would she have had you earlier or later if she could have?

About the birth:
How long was your mother in labor?_____
Who was present besides your mother? _____
Was there anything unusual about the birth (Breech? C-Section?) _____
_____

> **You might also discuss:**
> Did anything interesting or funny happen the day you were born? How was your name chosen?

About you:
What was your weight?_____ length?_____
Did you have any problems the first few days?_____
If you were born in a hospital, how long did you stay there?_____
Were you fed by a bottle or by breast?_____

> **You might also discuss:**
> Was anything special done to "welcome" you? Any kind of shower or a naming or adoption ceremony or religious observance, like a Baptism or Bris? How did your arrival change your mother's life? Your family's lives? Do you have any other questions?